



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,854	02/23/2004	Gerald Matranga	3348.01US01	9469
42028	7590	01/09/2006	EXAMINER	
VONBRIESEN & ROPER, S.C.			HEPPERLE, STEPHEN M	
411 EAST WISCONSIN AVENUE, SUITE 700			ART UNIT	
MILWAUKEE, WI 53202			PAPER NUMBER	

3753

DATE MAILED: 01/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/784,854

Applicant(s)

MATRANGA ET AL.

Examiner

Stephen M. Hepperle

Art Unit

3753

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

Art Unit: 3753

The drawings are objected to because the quality is such that it is hard to discern many details of the invention. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 8, 9, 14-19, 21-22, 27-32, and 34-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Shellman. Shellman shows a pressure regulator 18 (Fig. 2C) with a spool valve 22 biased closed by spring 26. Inlet pressure is admitted to the working surface of piston c

Art Unit: 3753

through restricting orifice 28 in opposition to the spring. Fluid flows through the valve in a direction opposite of the valve opening, and flows past a conical spool element that increases in cross section downstream. Regarding claim 14, the conical surface of Shellman is seen as equivalent to the conical surface of applicant's invention, understood to be recited second opposed surface. The method claims above are seen as practiced by Shellman.

Claims 1-2, 9, 12-15, 22, 25-28, 35, and 38-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Mathys. Mathys shows a pressure regulator valve with a working surface at the bottom of the spool that is supplied through a restricted orifice 43 in parallel with passage 46, which has a check valve to admit more fluid for opening (col. 4, lines 5-35). The upper (opposed) side of the piston is exposed to a main portion of fluid leaving the valve through outlet 16a.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-11, 23-24, and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shellman. It would have been obvious to make the Shellman orifice 28 of any diameter desired, including the values recited, to provide the desired damping effect.

Claims 7, 20, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shellman in view of Fuhrmann. Fuhrmann, published 31 October 2002 as US 2002/0157709, shows a metering spool using conical grooves for metering instead of a continuous conical

Art Unit: 3753

shape. It would have been obvious to replace the continuous conical taper of Shellman with conical grooves as shown by Fuhrmann because of the obvious equivalence of the two shapes, and the ability to use a simple file (instead of a lathe) to shape the groove.

Claims 25-26, and 38-39 are alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Shellman in view of Mathys. It would have been obvious to add a bypass passage with a check valve in parallel to the Shellman restrictor to allow for faster opening response as taught by Mathys.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Henry shows a pressure relief valve having a restrictor 33 for a gear pump. Hague shows another spool valve with conical slots 114. Ebersold, Karpis, and Brunner show spool relief valves.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Hepperle whose telephone number is 571-272-4913.

The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene can be reached on 571-272-4930. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3753

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Stephen M. Hepperle  
Primary Examiner  
Art Unit 3753

SMH